ABSTRACT

[00033] An electrothermal fluidized bed furnace is disclosed in which the furnace body has upper and lower cylindrical portions with the upper cylindrical portion having a diameter larger than that of the lower cylindrical portion. A conical portion is disposed below the lower cylindrical portion so that the conical portion and the lower cylindrical portion define a fluidizing zone while the upper cylindrical portion defines an overbed zone. A plurality of nozzles is disposed in the conical section for introducing fluidizing gas into the furnace, with the nozzles being arranged in a generally horizontal plan and orientated that the streams of the fluidizing gas introduced there through cross and form an upward flow in the central portion furnace body. Such an electrothermal fluidized bed furnace is adapted to be used in a continuous process for continuously heat treating of fine particulate matter.